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REMARKS

Claims 16-27 and 29-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Siggel et al. (US 4,380,594) in view of Klötzer et al (5,980,795). While applicants previously argued out that Siggel et al. do not teach a porous membrane, the Examiner pointed out that this feature is not clear in applicants' claims. Accordingly, claim 16 has been amended to explicitly recite that the resulting foam is an open pore foam. Basis for this amendment may be found in the specification at page 1, line 3 and in originally filed claims 30 and 31. No new issues have been raised because the process as claimed inherently produces such a membrane and several original product-by-process claims already explicitly recite this feature. Further, the Examiner has already considered this feature of the invention in his prior action.

Siggel et al. clearly do not teach a method of making an **open pore membrane** as claimed, but rather are concerned with forming a **partially hollow filament or fiber**. See col. 1, lines 53-59. By definition, filaments or fibers clearly differ in structure from membranes and would not necessarily be considered porous. See the enclosed definitions from the *American Heritage Dictionary*, Second College Ed. 1982. Nowhere do Siggel et al. teach a method of making a porous **membrane**. Rather, the filaments formed by the method of Siggel et al. have a plurality of adjacent separate discontinuous cavities. The filaments are illustrated in Figs. 2 and 3 of Siggel, and it is clear from the cross-sections of the filaments that they comprise closed cells which are distributed uniformly along the length of the filament. As shown, the outer walls of the filaments are not porous and could not be penetrated by liquids. In contrast, the membrane of the present invention comprises a continuous hollow cavity and the wall surrounding the cavity is porous. See the specification at page 2, lines 1-4 and page 6, lines 6-8.

While the Examiner asserts that the fibers of Siggel et al. are porous, there is no teaching or suggestion in Siggel et al. that there are visible pores on the **surface** of the fiber which would be required if Siggel indeed provided an open pore structure. Siggel et al. clearly teach that "the surface of the filament is essentially smooth, i.e., there are practically no burst cavities." Thus, a liquid or gas would not pass through the cavities of the filaments, and the filaments could not act as a porous membrane. Nowhere do Siggel et al. teach or suggest that the filaments are porous

or function as a porous membrane. While the Examiner asserts that Siggel et al. teach that their cavities may be of large dimensions and form a microporous structure, this teaching actually refers to the filaments taught in German Patent No. 346830 (see col. 1, lines 13-21), not the Siggel et al. filaments.

Accordingly, Siggel et al. clearly do not teach a method of making an open pore polymeric membrane as claimed. Nor would one skilled in the art look to Siggel et al. to produce the claimed porous membrane. Siggel et al. teach that their filaments are used in making mat material for use as filters, for reinforcing plastics, or upholstery material. One skilled in the art would certainly not look to Siggel et al. to make a porous membrane for use in gas separation or medicinal filtration applications as in the present invention.

Further, applicants wish to point out that neither Siggel et al. nor Klötzer et al. teach a method of making an open pore polymeric membrane utilizing a polymer or polymer mix containing from about 0.5 to about 4.5% by weight of a fluid that dissolves or swells the polymer as recited in claim 16. As taught in the present invention, the inclusion of such a fluid achieves the desired porosity in the claimed membrane. See the specification at page 2, lines 6-20. The Examiner has asserted that the silicone oil taught in the method of Siggel would function as a solvent as in the present invention. Applicants strongly disagree. It is well known in the art that silicone oils generally do not dissolve or swell polymers, and especially the polymers disclosed in Siggel et al., i.e., polyethylene terephthalate and polyamides. Such polymers are resistant to silicone oils. The Examiner has cited no factual evidence to support his speculation. A rejection must be founded upon evidence, not speculation.

It is clear from the teachings of Siggel et al. that the use of silicone oil is intended to reduce abrasion as the polymer melt passes into the die of the filament forming unit. See col. 4, lines 53-37. If the silicone oil were used to dissolve the polymer and thus became intermixed with the polymer, it would not be able to perform this function.

Applicants note the Examiner's statement that "plasticizers are also known to solubilize the polymer," suggesting that Siggel intended to plasticize the polymer by adding silicone oil. However, plasticizers are not generally solvents for polymers. There is no teaching or

suggestion in Siggel et al. which indicates that the term "plasticizer" could be interpreted to mean "dissolve" or "swell" as in the present invention, and the Examiner has pointed to no evidence that such would be the case.

Accordingly, as Siggel et al. do not teach or suggest an open pore membrane or a method which utilizes a fluid which dissolves or swells a polymer to form an open pore membrane, the method of Siggel et al. would not inherently produce an open pore membrane as asserted by the Examiner.

Nor do Klötzer et al. teach or suggest a fluid which dissolves or swells the polymer. Accordingly, even if one were to combine the teachings of Siggel et al. and Klötzer et al., the claimed method would not result as neither Siggel et al. nor Klötzer et al. teach a method of forming an open pore membrane which utilizes a polymer containing a fluid that dissolves or swells the polymer as claimed. Claims 16-27 and 29-34 are clearly patentable over Siggel et al. and Klötzer et al.

Claim 28 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Siggel et al. in view of Klötzer et al. and further in view of Malon et al. (US 5,013,767). As discussed above, there is no motivation to combine the teachings of Siggel et al. and Klötzer et al. The Examiner has also failed to provide any motivation for combining the teachings of Siggel et al., Klötzer et al., and Malon et al. While the Examiner argues that Malon was cited to show the specific solvents used, he has not provided any motivation or reasoning as to why one skilled in the art would look to Malon to use a solvent. As discussed in detail above, Siggel et al. do not desire a porous membrane; therefore, there is no motivation to use a solvent to dissolve the polymer for forming a porous membrane.

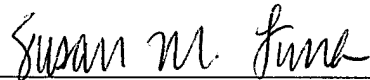
And, as previously pointed out, there is no motivation to combine the method of Siggel with the method of Malon as the methods and the products produced from the methods are not related. The method taught in Malon relies on phase inversion of polymer solutions to form the membranes, not gas charging and foaming as taught in Siggel and Klötzer. The Examiner has provided no reasoning as to how or why one skilled in the art would or could combine the

filament formation method of Siggel with the membrane phase inversion method of Malon. There is clearly no motivation to combine the teachings Siggel, Klötzer, and Malon.

Nor do Malon et al. teach or suggest that the polymer or polymer mix contains from about 0.05 to about 4.5% by weight of a fluid that dissolves or swells the polymer or mix of polymers. Malon et al. teach polymer solutions comprising between 70 and 85 weight percent of the solvent (see col. 20, lines 5-45). Claim 28 is also clearly patentable over the cited art.

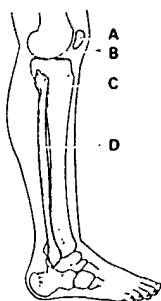
Applicants respectfully submit that, in view of the above amendments and remarks, the application is now in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,  
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# fiacre | fidelity



**fibula**  
A. Patella  
B. Femur  
C. Tibia  
D. Fibula



**fichu**



**fiddle**



**fiddlehead**  
Fiddlehead fern



**fiddler crab**

**fi-a-cre** (fē-ā'krā) *n.* A small hackney coach. [Fr., after the Hotel de St. Fiacre, Paris.]

**fi-an-cé** (fē-ān-sā', fē-ān-sā') *n.* A man engaged to be married. [Fr., p.p.t. of *fiancer*, to betroth < OFr. *fiancier* < *fiance*, trust < *fier* to trust < Lat. *fidare*.]

**fi-an-cée** (fē-ān-sā', fē-ān-sā') *n.* A woman engaged to be married. [Fr., fem. of *fiancé*, fiancé.]

**fi-as-co** (fē-ās'kō, -ā'skō) *n., pl. -coes or -cos.* A complete failure. [Fr. < Ital.]

**fi-at** (fē-āt, -āt', -āt', (fāt', -āt') *n.* 1. An arbitrary order or decree. 2. Authorization or sanction. [Lat., let it be done.]

**fiat money** *n.* Paper money decreed legal tender, not backed by gold or silver and not necessarily redeemable in coin.

**fib** (fīb) *n.* An inconsequential lie. —*intr.v.* **fibbed**, **fib-bing**, **fibbs**. To tell a fib. [Orig. unknown.] —**fib'ber** *n.*

**fi-bër** (fīb'ër) *n.* 1. A slender, elongated structure. 2. One of the elongated, thick-walled cells that give strength and support to plant tissue. 3. Any of the filaments constituting the intracellular matrix of connective tissue. 4. Any of the elongated contractile cells of muscle tissue. 5. The long thread-like process of a neuron. 6. a. A natural or synthetic filament, as of cotton or nylon, capable of being spun into yarn. b. Material made of such filaments. 7. Essential substance or character: "stirred the deeper fibers of my nature" (Oscar Wilde). 8. Internal strength; toughness: *lacking in moral fiber*. [Fr. *fibre* < Lat. *fibra*.]

**fi-bër-board** (fīb'ër-bōrd', -bōrd') *n.* A building material composed of wood or other plant fibers bonded together and compressed into rigid sheets.

**Fi-bër-ñt** (fīb'ër-ñt') *n.* A trademark for a synthetic resin used as quilt filling.

**Fi-bër-glas** (fīb'ër-glās'). A trademark for a type of fiber glass.

**fiber glass** *n.* A composite material consisting of glass fibers in resin.

**fi-bër-ize** (fīb'ër-rīz') *tr.v.* -ized, -iz-ing, -izes. To break into fibers. —**fi'bër-i-zā'tion** *n.*

**fiber optics** *n.* The optics of light transmission through very fine, flexible glass rods by internal reflection. —**fi'bër-op'tic** (fīb'ër-öp'tik) *adj.*

**fi-bër-scope** (fīb'ër-skōp') *n.* A flexible fiber-optic instrument that is used to view objects that would otherwise be inaccessible.

**Fi-bö-nac-cí number** (fē'bō-nā'chē) *n.* A number in the Fibonacci sequence.

**Fibonacci sequence** *n.* A series of numbers, 1, 1, 2, 3, 5, 8, 13, . . . , in which each successive number is equal to the sum of the two preceding numbers. [After Leonardo Fibonacci (d. ca. 1250).]

**fi-br-** *pref.* Variant of *fibro-*.

**fi-bre** (fīb'ër) *n.* Chiefly Brit. Variant of *fiber*.

**fi-brí-form** (fīb'ër-fōrm') *adj.* Similar in form or structure to a fiber. [FIBRE + -FORM.]

**fi-brill** (fīb'ër, fīb'ërəl) *n.* A small, slender fiber, as a root hair. [NLat. *fibrilla*, dim. of Lat. *fibra*, fiber.] —**fi'bri-lar** (-lär), **fi'bri-lar-y** (-lär') *adj.*

**fi-brill-late** (fīb'ër-lāt', fīb'ër-) *intr. & tr.v.* -lated, -lat-ing, -lates. To undergo or cause to undergo fibrillation. [Back-formation < FIBRILLATION.]

**fi-bril-la-tion** (fīb'ër-lā'shən, fīb'ër-brā'shən) *n.* 1. The forming of fibers. 2. Uncoordinated twitching of individual muscular fibers with little or no movement of the muscle as a whole. 3. Fine, rapid fibrillar movements that replace the normal contraction of the ventricular muscle of the heart. [NLat. *fibrilla*, fibril + -TION.]

**fi-bril-lí-form** (fīb'ër-lí-fōrm', fā-) *adj.* Having the form of a fibril.

**fi-bril-lose** (fīb'ër-lōs', fīb'ër-) *adj.* Having or consisting of fibrils.

**fi-brin** (fīb'ër) *n.* An elastic, insoluble protein derived from the interaction of fibrinogen with thrombin and forming a fibrous network in the coagulation of blood.

**fi-brin-o-gen** (fīb'ër-jən) *n.* A protein in the blood plasma that is converted to fibrin by the action of thrombin in the presence of ionized calcium.

**fi-brí-not-y-sin** (fīb'ër-nōl't-sín) *n.* An enzyme capable of dissolving fibrin.

**fi-brí-not-y-sis** (fīb'ër-nōl't-sís) *n., pl. -ses* (-sēz'). The breakdown of fibrin by the action of fibrinolysin. —**fi'bri-not-ýt-ic** (-nō-lít'ik) *adj.*

**fi-brí-nous** (fīb'ër-nəs) *adj.* Of, relating to, or having the nature of fibrin.

**fi-bro-** or **fi-br-** *pref.* 1. Fiber: *fibrous*. 2. Fibrous tissue: *fibroma*. [Lat. *fibra*, fiber.]

**fi-bro-blast** (fīb'ër-blást') *n.* A cell that gives rise to connective tissue. —**fi'b-ro-blast'ic** *adj.*

**fi-bro-car-tí-lage** (fīb'ër-kär'tíl-ij) *n.* Cartilage that contains numerous thick bundles of collagen fibers.

**fi-broid** (fīb'ër) *adj.* Resembling or composed of fibrous tissue. —*n.* A benign neoplasm of smooth muscle, esp. in the uterine wall.

**fi-bro-in** (fīb'ër-in) *n.* A white protein that is the essential component of raw silk and spider-web filaments. [Fr. *fibroïne* < *fibra*, fiber.]

**fi-bro-ma** (fīb'ër-mā) *n., pl. -mas or -mata* (-mā-tā). A be-

nign neoplasm derived from fibrous tissue —**fi-brom'a** (-bróm'ā-tās, -bróm'ā-) *adj.*

**fi-bro-sis** (fīb'ër-sīs) *n.* The formation of fibrous tissue, a reparative or reactive process, in excess of amounts normally present. —**fi-bro'tic** (-brót'ik) *adj.*

**fi-bro-sítis** (fīb'ër-sítis) *n.* The inflammatory hyperplasia of white fibrous connective tissue. [NLat. *fibrosus*, fibrous + -ITIS.]

**fi-brous** (fīb'ër) *adj.* Having, consisting of, or resembling fibers. —**fi'brous-ly** *adv.* —**fi'brous-ness** *n.*

**fi-bro-vas-cu-lar** (fīb'ër-vás'kyu-lär) *adj.* Having fibrous and vascular tissue, as in the woody tissue of pl.

**fi-bu-la** (fīb'ya-lā) *n., pl. -lae* (-lē) or *-las*. The outer smaller of two bones of the human leg or the hind leg of an animal, between the knee and ankle. [NLat. < Lat., < perh. < *figere*, to fix.]

**-fic** *suff.* Causing; making: *suppurific*. [Lat. *ficus* < *facere*, to do.]

**-fication** *suff.* Production; making: *polyfication*. [ME. < OFr. *fication* < Lat. *ficatio* < *figere*, to make < *ficus*, -fic.]

**fice** (fis) *n.* Variant of *felst*.

**fiche** (fēsh) *n.* A microfiche.

**fich-u** (fīsh'ō, fē-shōw') *n.* A woman's triangular sea lightweight fabric, worn over the shoulders and crossed tied in a loose knot at the breast. [Fr. < p.p.t. of *fich*, fix < Lat. *figere*.]

**fi-ck-le** (fīk'əl) *adj.* Characterized by erratic changeability or instability, esp. with regard to affections or attachments capricious. [ME. *fikel* < OE *fiecl*, deceitful.] —**fi-ck-le-ness** *n.*

**fi-cí-tile** (fīk'tíl, -tíl') *adj.* 1. Capable of being molded; pl. 2. Formed of a moldable substance, such as clay or c. 3. Of or pertaining to earthenware or pottery. [Lat. *fi* made of clay < *fictus*, p.p.t. of *figere*, to mold.]

**fi-ct-ion** (fīk'shən) *n.* 1. An imaginative creation or a tense that does not represent actuality but has been invented. 2. The act of inventing an imaginative creation. 3. A lie. 4. a. A literary work whose content produced by the imagination and is not necessarily based on fact. b. The category of literature comprising works of this kind, including novels, short stories, and plays. 5. Something accepted as fact without any real justification; merely for the sake of convenience. [ME. *fictioun* < *fictio* < Lat. *fictio* < *fictus*, p.p.t. of *figere*, to fix < *fic*, to make.] —**fi-ct-ion-al** *adj.* —**fi-ct-ion-al-ly** *adv.*

**fi-ct-ion-al-ize** (fīk'shā-nā-līz') *tr.v.* -ized, -iz-ing, -izes. To treat as or make into fiction: *fictionalized his account negotiations to add suspense*. —**fi-ct-ion-al-i-zā-tion** *n.*

**fi-ct-ion-er** (fīk'shā-nēr) *n.* One who writes fiction, a prolific creator of commercial or pulp fiction.

**fi-ct-ion-ize** (fīk'shā-nīz') *tr.v.* -ized, -iz-ing, -izes. To fictionalize. —**fi-ct-ion-i-zā-tion** *n.*

**fi-ctí-tious** (fīk'tīsh'as) *adj.* 1. Of, pertaining to, or characterized by fiction; imaginary. 2. Adopted or assumed der to deceive: a *fictitious name*. 3. Not genuinely believed or felt; sham: *greeted me with a fictitious enthusiasm*. —**fi-ctí-tious-ly** *adv.* —**fi-ctí-tious-ness** *n.*

**fi-ctí-ve** (fīk'tív) *adj.* 1. Of or pertaining to the creative fiction. 2. Pertaining to or characterized by fiction; fictitious. 3. Feigned; sham. —**fi-ctí-ve-ly** *adv.*

**fid** (fid) *n.* *Naut.* 1. A square bar used as a support to the mast. 2. A large, tapering pin used to open the struts of a rope prior to splicing. [Orig. unknown.]

**-fid** *suff.* Divided into parts or lobes: *pinnatifid*. [Lat. < *findere*, to split.]

**fid-dle** (fid'l) *n.* 1. *Informal.* a. A violin. b. A member of the violin family. 2. *Naut.* A guard rail used on a table to rough weather to prevent things from slipping off. 3. *mal.* Nonsensical trifling: "there are things that are important beyond all this fiddle" (Marianne Moore). —**fid-dled**, **-diling**, **-dies**. —*intr.* 1. *Informal.* To play a. 2. To move one's fingers or hands in a nervous fashion. 3. To putter or tamper with something in order to regulate it: *always fiddling with the radio*. —*tr.* *Informal.* play (a tune) on a violin. —**phrasal verb.** **fid-dle aw**: waste or squander: *fiddled away the day*. [ME. *fidle* < LLat. *vitula* < Lat. *vitulari*, to celebrate a victory. *Vitula*, goddess of victory.] —**fid'dler** *n.*

**fid-dle-de-dee** (fid'l-dē-dē) *interj.* Used to express annoyance or impatience.

**fid-dle-fad-dle** (fid'l-fād'l) *interj.* Used to express annoyance or impatience. —*intr.v.* **-dled**, **-diling**, **-dies**. 1. To waste or squander time; dally. [Redup. of *fid* < *findere*, to split.]

**fid'dle-head** (fid'l-hēd') *n.* 1. A curved, scroll-like ornamentation at the top of a ship's bow that resembles the head of a violin. 2. The coiled young frond of any of various ferns considered a delicacy when cooked.

**fiddler crab** *n.* Any of various burrowing crabs of the *Uca*, of coastal areas, having one of the anterior claws enlarged in the male.

**fid-dle-sticks** (fid'l-stīks') *interj.* Used to express annoyance or impatience.

**fi-dél-ty** (fī-dēl'tē, fī-) *n., pl. -ties*. 1. Faithfulness; fidelity, or observances. 2. Exact correspondence with fact or with a given quality, condition, or event.

ā pat / ā pay / ār care / ā father / b bib / ch church / d deed / ē pet / ē be / f fife / g gag / h hat / hw which / i pit / i pie / j judge / k kick / l lid, needle / m mum / n no, sudden / ng thing / ō pot / ō toe / ō paw, for / oi noise / ou out / ōō took / ōō

acid. [Fr. *mélinite* < Gk. *mēlinos*, quince-yellow < *mēlon*, quince.]

**meliorate** (mēl'yō-rāt', mē'lē-ō-) *v.* -rat-ed, -rat-ing, -rates. —*tr.* To make better; improve. —*intr.* To grow better. [LLat. *meliorare*, *meliorat-* < *melior*, better.] —**meliorable** (-rā-bəl) *adj.* —**meliorative** *adj.* & *n.* —**meliorator** *n.*

**melioration** (mēl'yō-rā'shən, mē'lē-ō-) *n.* 1. a. The act or process of improving something or the state of being improved. b. An improvement. 2. The linguistic process by which a word, over a period of time, grows more elevated in meaning or more positive in connotation.

**meliorism** (mēl'yō-riz'm, mē'lē-ō-) *n.* The belief that society has an innate tendency toward improvement and that this tendency may be furthered through conscious human effort. [Lat. *melior*, better + -ISM.] —**meliorist** *n.* —**melioristic** *adj.*

**melisma** (mə-liz'mə) *n.*, *pl.* -ma-ta (-mə-tə) or -mas. *Mus.* A passage sung to one syllable of text, as in Gregorian chant. [NLat. < Gk., song < *melizein*, to sing < *melos*, song.] —**melismatic** (mēl'iz-māt'ik) *adj.*

**mellicerous** (mə-lif'ar-əs) also **melilic** (mə-lif'ik) *adj.* Forming or bearing honey. [Lat. *melifer*: *mel*, honey + *ferre*, to bear.]

**melliculent** (mə-lif'ōd-ənt) *adj.* Melliculous. —**melliculently** *adv.*

**melliculous** (mə-lif'ōd-əs) *adj.* 1. Flowing with honey or sweetness. 2. Smooth and sweet; honeyed: a *melliculous* voice. [Lat. *melliculus*: *mel*, honey + *fluere*, to flow.] —**melliculously** *adv.* —**melliculousness** *n.*

**melophone** (mēl'ō-fōn') *n.* A brass musical wind instrument sometimes used as a substitute for the French horn, which it resembles in tone. [MELI(Φ) + -PHONE.]

**melow** (mēl'ō) *adj.* -er, -est. 1. a. Soft, sweet, juicy, and full-flavored because of ripeness: a *mellow* fruit. b. Suggesting softness, sweetness, juiciness, or full flavor: "The *mellow* air brought in the feel of imminent autumn" (Thomas Hardy). 2. Rich and soft in quality: a *mellow* sound; a *mellow* wine. 3. Having the gentleness, wisdom, or dignity often characteristic of maturity. 4. Relaxed and at ease; genial. 5. a. Slightly and pleasantly intoxicated. b. Pleasantly high from a drug, esp. from smoking marijuana. 6. Moist, rich, soft, and loamy. Used of soil. —*v.* -lowed, -low-ing, -lows. —*tr.* & *intr.* To make or become mellow. [ME *melowe*.]

**melowly** *adv.* —**melowness** *n.*

**melodeon** (mə-lō-dē-ən) *n.* A small reed organ. [G. *Melodion* < *Melodie*, melody < OFr. —see MELODY.]

**melodic** (mə-lōd'ik) *adj.* Of, pertaining to, or containing melody. —**melodically** *adv.*

**melodious** (mə-lō-dē-əs) *adj.* 1. Of, pertaining to, or containing a pleasing succession of sounds; tuneful. 2. Agreeable to hear. —**melodiously** *adv.* —**melodiousness** *n.*

**melodize** (mēl'ō-dīz') *v.* -dized, -diz-ing, -diz-es. —*tr.* 1. To write a melody for (a song lyric). 2. To make melodious. —*intr.* To compose a melody. —**melodizer**, **melodist** *n.*

**melodrama** (mēl'ō-drā'mə, -drām'ə) *n.* 1. a. A dramatic presentation characterized by heavy use of suspense, sensational episodes, romantic sentiment, and a conventionally happy ending. b. The dramatic genre characterized by this treatment. 2. Behavior or occurrences having melodramatic characteristics. [Fr. *mélodrame*: Gk. *melos*, song + Fr. *drame*, drama < LLat. *drama*. —see DRAMA.]

**melodramatic** (mēl'ō-drā-māt'ik) *adj.* 1. Having the excitement and emotional appeal of melodrama: "a *melodramatic* account of two perilous days spent among the planters" (Frank O. Gatell). 2. Exaggeratedly emotional or sentimental; histrionic: "Accuse me, if you will, of *melodramatic embroidery*" (Erskine Childers). 3. Characterized by false pathos and sentiment. —**melodramatically** *adv.*

**melodramatics** (mēl'ō-drā-māt'iks) *n.* (used with a sing. or pl. verb). 1. Melodramatic theatrical performance. 2. Melodramatic actions.

**melody** (mēl'ō-dē) *n.*, *pl.* -dies. 1. A pleasing succession or arrangement of sounds. 2. Musical quality: the *melody* of verse. 3. *Mus.* a. A rhythmically organized sequence of single tones so related to one another as to make up a particular musical phrase or idea. b. The structure of music with respect to the arrangement of single notes in succession. c. The leading part or the air in a harmonic composition. 4. A poem suitable for setting to music or singing. [ME *melodie* < OFr. < LLat. *melodia* < Gk. *melōidia*, choral song: *melos*, tune + *oidein*, to sing.]

**meloid** (mēl'oid', mēl'ō-id) *n.* A blister beetle. —*adj.* Of or pertaining to blister beetles. [NLat. *Meloidae*, family name < *Meloe*, beetle genus.]

**melon** (mēl'an) *n.* 1. Any of several varieties of two related vines, *Cucumis melo* or *Citrullus vulgaris*, widely cultivated for their edible fruit. 2. The fruit of a melon vine, characteristically having a hard rind and juicy flesh. [ME < LLat. *melo*, short for Lat. *meloepōn* < Gk. *mēloepōn*: *melon*, apple + *pepōn*, gourd.]

**Melpomene** (mēl-pōm'ē-nē) *n.* Gk. Myth. The Muse of tragedy. [Lat. < Gk. *Melpomenē* < *melpeshai*, to sing.]

**melt** (melt) *v.* -melt-ed, -melt-ing, -melts. —*intr.* 1. To be changed from a solid to a liquid state by the application of heat, pressure, or both. 2. To dissolve: *Sugar melts in water.* 3. To disappear or vanish gradually as if by dissolving.

4. To pass or merge imperceptibly into something else: *Objects at a distance grew indistinct and seemed to melt into each other.* 5. To become softened in feeling: *Her heart melted at the child's tears.* 6. *Obs.* To be overcome or crushed, as by grief, dismay or fear. —*tr.* 1. To reduce from a solid to a liquid state by the application of heat, pressure, or both. 2. To dissolve: *melting honey in hot milk.* 3. To cause to disappear gradually; disperse. 4. To cause (units) to blend: "Here individuals of all races are melted into a new race of men" (H.J.S. Crevecoeur). 5. To soften (someone's feelings); make gentle or tender. —*n.* 1. A melted solid; fused mass. 2. The state of being melted. 3. a. The act or operation of melting. b. The quantity melted at a single operation or in one period. [ME *melten* < OE *meltan*.] —**melt-** *a-bil'-ty* *n.* —**melt-a-ble** *adj.* —**melter** *n.*

**Synonyms:** melt, fuse, liquefy, thaw, dissolve, deliquesce. *Melt* is applied to physical liquefaction caused usually by heat and figuratively to gradual disappearance or transformation. *Fuse* is largely restricted to the process whereby metals are joined by melting and to figurative unions produced under stress: *courage and resolve fused by threat of conquest.* *Liquefy* is restricted to physical processes, but is said of both gases and solids, whereas the other terms apply only to solids. *Thaw* is applicable to that which is frozen and subjected to heat, but does not necessarily indicate complete liquefaction; figuratively it may refer to the softening of a harsh emotion or attitude. *Dissolve* specifies liquefaction by means of a solvent, a liquid that mingles its components with those of the original solid in a resultant liquid; figuratively it applies to melting, as by emotion. In both senses the term stresses complete transformation. *Deliquesce* refers to physical melting, usually gradual, through absorption of moisture from the air.

**meltage** (mēl'tij) *n.* 1. The quantity or substance produced by a melting process. 2. The process or act of melting.

**melt-down** (mēl'town) *n.* The melting of a nuclear reactor core.

**melting point** *n.* 1. The temperature at which a solid becomes a liquid at standard atmospheric pressure. 2. The temperature at which a solid and its liquid are in equilibrium, at any fixed pressure.

**melting pot** *n.* 1. A container in which a substance is melted or fused. 2. A place where immigrants of different cultures or races form an integrated society.

**melton** (mēl'ton) *n.* A heavy woolen cloth used chiefly for making overcoats and hunting jackets. [After Melton Mowbray, England.]

**mem** (mēm) *n.* The 13th letter of the Hebrew alphabet. See table at alphabet. [Heb.]

**member** (mēm'bar) *n.* 1. A distinct part of a whole, esp.: a. A syntactic unit of a sentence; clause. b. A proposition of a syllogism. c. An element in a mathematical set. 2. A part or organ of a human or animal body, as: a. A limb, such as an arm or leg. b. The penis. 3. A part of a plant. 4. A person who belongs to a group or organization. 5. *Math.* The expression on either side of an equality sign. [ME < OFr. *membre* < Lat. *membrum*.]

**members-ship** (mēm'bar-ship') *n.* 1. The state of being a member. 2. The total number of members in a group.

**membrane** (mēm'brān) *n.* 1. *Biol.* A thin, pliable layer of tissue covering surfaces or separating or connecting regions, structures, or organs of an animal or plant. 2. A piece of parchment. 3. *Chem.* A thin sheet of natural or synthetic material that is permeable to substances in solution. [Lat. *membrana*, skin < *membrum*, member.] —**membranal** (-brā-nəl) *adj.*

**membrane bone** *n.* A bone formed directly in the connective tissue, as some cranial bones.

**membranous** (mēm'brā-nəs) *adj.* 1. Made of or similar to a membrane. 2. *Pathol.* Characterized by membrane formation.

**membranous labyrinth** *n.* The soft-tissue sensory structures of the inner ear.

**memen-to** (mə-mēn'tō) *n.*, *pl.* -tos or -toes. A reminder of the past; keepsake. [ME < Lat. *memento*, imper. of *memento*, to remember.]

**memen-to-mo-ri** (mə-mēn'tō mōr'ē) *n.* 1. A reminder of death or mortality, esp. a death's-head. 2. A reminder of human failures or errors. [Lat., remember that you must die.]

**Mem-non** (mēm'nōn) *n.* Gk. Myth. An Ethiopian king killed by Achilles and made immortal by Zeus. [Gk. *Memnōn*.]

**memo** (mēm'ō) *n.*, *pl.* -os. A memorandum.

**memoir** (mēm'wār, -wōr') *n.* 1. An account of the personal experiences of an author. 2. Often *memoirs*. An autobiography. 3. A biography or biographical sketch. 4. A report, esp. on a scientific or scholarly topic. 5. *memoirs*. The report of the proceedings of a learned society. [Fr. *mémoire* < OFr. *memoire*, memory.]

**memo-rabil-i-a** (mēm'ar-ə-bil'ē-ə, -bil'yə) *pl. n.* Remarkable things worthy of remembrance. [Lat. < *memorabilis*, memorable.]

**memo-r-a-ble** (mēm'ar-ə-bəl) *adj.* Worth being remembered or noted; remarkable: a *memorable* event. [ME < Lat. *memorabilis* < *memorare*, to remember < *memor*, mindful.]



melon  
Left to right: Crenshaw, watermelon, cantaloupe

F°	C°	
2.795	1.535	iron
2.647	1.453	nickel
1.981	1.083	copper
1.762	961	silver
1.220	680	aluminum
786	419	zinc
621	327	lead
450	232	tin
32	0	ice

melting point

ā pat / ā pay / ā care / ā father / b bib / ch church / d deed / ē pet / ē be / f fife / g gag / h hat / hw which / ī pit / ī pie / īr pier / j judge / k kick / l lid, needle / m mum / n no, sudden / ng thing / ō pot / ō toe / ō paw, for / oi noise / ou out / ōō took / ōō boot /